

For Information

**Legislative Council
Panel on Environmental Affairs**

**Sewage Services Operating Accounts
Actual Outturn in 2014-15 and Projected Outturn in 2015-16**

PURPOSE

This information note provides Members with an annual summary of the Sewage Services Operating Accounts (SSOA).

BACKGROUND

2. In May 2007, we obtained approval from the Legislative Council (LegCo) to increase the Sewage Charge (SC) rate by ten increments of 9.3% per annum with a view to recovering 80% of the respective operating cost by 2017-18^[1]. Throughout the ten-year period from 2008-09 to 2017-18 when the scheduled increments gradually take place, Members will be provided with annual summaries of the SSOA outturn for monitoring. This is the eighth annual summary which covers the actual outturn of SSOA in 2014-15 and the projected outturn in 2015-16^[2].

3. Trade Effluent Surcharge (TES) is applied to 27 specified trades^[3] in addition to SC. In July 2008, LegCo approved the revision of TES rates with effect from 1 August 2008 in accordance with the polluter-pays principle^[4]. This information note also gives an overview of the revenue from TES and the respective operating expenditure over the same period.

¹ In accordance with the polluter-pays principle, following the review of TES with changes as set out in Footnote 4, the average ratio for apportioning the operating expenditure of sewage services between SC and TES was adjusted from 78:22 to 85:15 with effect from 1 August 2008. With the assignment of a bigger portion of the operating expenditure to SC, the recovery target of SC for 2017-18 was subsequently revised downwards to 70%.

² Please refer to LC Papers No. CB(1)1681/08-09(01), CB(1)2376/09-10(01), CB(1)2766/10-11(01), CB(1)1792/11-12(01), CB(1)1548/12-13(01), CB(1)1855/13-14(01) and CB(1)1126/14-15(01) for the previous seven annual summaries.

³ These 27 trades and their respective TES rates are specified in Schedule 1 to the Sewage Services (Trade Effluent Surcharge) Regulation (Cap. 463B).

⁴ Based on the results of effluent surveys, the TES rates of 13 trades (including the restaurants trade) were reduced on 1 August 2008 whereas the TES rates of 14 trades were increased in either one increment (on 1 August 2008) or two increments (on 1 August 2008 and 1 August 2009). Three trades were removed from the TES Scheme as their effluents were found to be not stronger than domestic sewage.

SEWAGE SERVICES OPERATING ACCOUNTS

4. A summary of the actual outturn of SSOA in 2014-15 and the projected outturn in 2015-16 with breakdowns by SC and TES is provided at Annex A.

Sewage Charge

5. The revenue from SC was \$955.1 million in 2014-15. The 9.1% year-on-year growth was primarily underpinned by the increase in SC rate from \$2.05 per cubic metre (m³) of water supplied in 2013-14 to \$2.24 per m³ in 2014-15. Within the same period, the respective operating expenditure increased to \$1,450.1 million (+10.3% year-on-year) mainly reflecting the increase in recurrent cost arising from the commissioning of the Pillar Point sewage treatment works and partial commissioning of the Harbour Area Treatment Scheme (HATS) Stage 2A, as well as the increase in general price levels. The operating cost recovery rate (OCRR) in respect of SC decreased slightly from 66.6% in 2013-14 to 65.9% in 2014-15.

6. Looking ahead, the revenue from SC is projected to grow further to \$1,048.1 million (+9.7% year-on-year) in 2015-16 upon the eighth increment of SC rate to \$2.44 per m³ from 1 April 2015. We also expect the respective operating expenditure to increase to \$1,589.7 million (+9.6% year-on-year) in 2015-16, mainly due to the increase in recurrent cost arising from the commissioning of HATS Stage 2A and partial commissioning of the Sludge Treatment Facilities (STF), as well as the anticipated rise in general price levels. Based on the above, the OCRR in respect of SC is projected to remain unchanged at 65.9% in 2015-16.

Trade Effluent Surcharge

7. As regards TES, the revenue increased to \$226.6 million in 2014-15 (+2.3% year-on-year) due to the increase in number of TES accounts and higher water consumption by the TES trades, whereas the respective operating expenditure for the same period expanded to \$264.5 million (+12.8% year-on-year). Given the increase in operating expenditure, this leads to a decrease in the OCRR in respect of TES from 94.5% in 2013-14 to 85.7% in 2014-15.

8. Compared with the outturn in 2014-15, the revenue from TES is projected to increase to \$231.7 million (+2.3% year-on-year) in 2015-16, whereas the respective operating expenditure is projected to increase to \$291.4 million (+10.2% year-on-year). The OCRR in respect of TES is thus

expected to be 79.5% in 2015-16.

PROGRESS OF PROJECTS RELATING TO SEWAGE SERVICES

9. While Drainage Services Department (DSD) has continued to maintain tight control on the operational costs, the rise in the operating expenditure of SSOA is mainly due to the progress of three major infrastructural projects relating to sewage services, namely the Advance Disinfection Facilities (ADF), Stage 2A of HATS and the STF. Their latest position is summarised below.

Advance Disinfection Facilities

10. The ADF disinfects the treated effluent from the Stonecutters Island Sewage Treatment Works (STW) with a view to improving the water quality of western Victoria Harbour and Tsuen Wan. With the full commissioning of the facilities from 1 March 2010, water quality at the seven beaches in Tsuen Wan has seen significant improvement such that all of them have become suitable for swimming and have been re-opened in phases. Four of the beaches, namely Approach Beach, Casam Beach, Hoi Mei Wan Beach and Lido Beach, have been re-opened since June 2011. Anglers' Beach has also been re-opened since September 2013 and the remaining two beaches, namely Gemini Beaches and Ting Kau Beach, have been re-opened since April 2014.

Stage 2A of the Harbour Area Treatment Scheme

11. Stage 2A of HATS serves to collect sewage generated from the northern part and south-western part of Hong Kong Island for centralised treatment at the Stonecutters Island STW. We obtained funding approval from the Finance Committee (FC) for implementing the project in two parcels at an estimated cost of \$17,199.9 million in money-of-the-day (MOD) prices. Stage 2A of HATS was fully commissioned in December 2015.

Sludge Treatment Facilities

12. The STF is a centralised solution to the anticipated increase in sewage sludge volume particularly upon the commissioning of Stage 2A of HATS. It is located in Nim Wan with a design capacity of 2 000 tonnes of sewage sludge per day. With FC's approval of \$5,154.4 million (in MOD prices) for the project in June 2009, we awarded the design-build-operate contract in September 2010. The first phase of the STF was commissioned in April 2015. In June 2015, FC further approved the increase in approved

project estimate (APE) of the STF to \$5,364.3 million to cover the additional costs arising from the increase in provision for price adjustment. The second phase of the STF was commissioned in April 2016.

Other sewerage projects

13. Apart from the three major infrastructural projects, DSD is also carrying out a number of smaller scale sewerage projects such as the upgrading and expansion of regional STWs, local sewerage improvement works and construction of public sewerage in rural areas. Among the 45 smaller scale projects ^[5], DSD has completed 17 projects since the SC review in 2007 while another 21 projects are being implemented or will commence shortly. The rest, as well as remainders of projects being implemented in phases, are at different stages of planning and preparation. Please refer to Part 2 of Annex B for their position as of June 2016.

IMPLICATIONS TO THE INCREMENT SCHEDULE

14. As indicated alongside our commitment to provide Members with annual summaries of the SSOA outturn, we would also review the schedule of increases in SC rate (i) should SSOA show that the OCRR in respect of SC has exceeded the target of 80%, or be projected to exceed this target in the following year; or (ii) should the programme of major infrastructural projects be delayed by more than one year.

15. In mid-2011, we completed a mid-term review on the schedule of increases in SC rate and concluded that the increment schedule should be kept intact for the time being. The review has taken into account the fiscal outlook of SSOA as well as relevant factors such as the status of ongoing sewerage projects and the implementation programmes of those under planning at that time. We have revisited that conclusion with due consideration of the position of various sewerage projects as of June 2016. As reported in paragraphs 11 and 12, Stage 2A of HATS was fully commissioned in December 2015 and the first phase and the second phase of the STF were commissioned in April 2015 and April 2016 respectively. Most ongoing projects have continued to progress satisfactorily though the target completion dates of several projects

⁵ These 45 smaller scale projects refer to –

- (a) 38 projects the implications of which on the operating expenditure of SSOA have been taken into account in formulating the schedule of SC increments in 2007. A list of these projects (together with the three major infrastructural projects discussed in paragraphs 10 to 12) was provided at Annex C to LC Paper No. CB(1)1435/06-07(02); and
- (b) seven other sewerage projects initiated after the review on SC.

have to be rescheduled due to unforeseen technical issues. As for those sewerage works with implementation timeframe still under review as of July 2011, we have taken forward works packages of ten of these projects that are being implemented in phases (items 8, 13, 21, 22, 29, 31, 34, 37, 46 and 48).

16. With the sustained momentum in the implementation of various sewerage projects, particularly both Stage 2A of HATS and the STF, the increase in the operating expenditure of SSOA is anticipated to be generally on track for a period of time. We therefore maintain our appraisal of the fiscal outlook of SSOA and consider that the conclusion reached in the mid-term review is still valid.

WAY FORWARD AND ADVICE SOUGHT

17. As Stage 2A of HATS and the second phase of the STF were commissioned in December 2015 and April 2016 respectively, the Administration will continue to closely monitor the outturn of SSOA with attention to the actual recurrent implications of both projects. Members will be kept informed of the latest situation through our annual summaries. Meanwhile, we shall endeavour to complete ongoing projects as timely as possible. We shall also seek to commence other sewerage works under planning as soon as practicable with a view to realising early benefits to the environment by implementing them in phases where appropriate and feasible.

18. Members are invited to note the content of this information note.

Environmental Protection Department
Drainage Services Department
June 2016

Sewage Services Operating Accounts**Actual Outturn in 2014-15 and Projected Outturn in 2015-16**

		(X) Outturn in 2014-15 (Actual)		(Y) Outturn in 2015-16 (Projected)		(Y) - (X) Variance	
		SC	TES	SC	TES	SC	TES
(A)	Revenue (\$ million)	955.1	226.6	1,048.1	231.7	93.0	5.1
(B)	Expenditure [#] (\$ million)	1,450.1	264.5	1,589.7	291.4	139.6	26.9
(A) - (B)	Operating Deficit (\$ million)	495.0	37.9	541.6	59.7	46.6	21.8
(A) / (B)	Operating Cost Recovery Rate	65.9%	85.7%	65.9%	79.5%	0% point	(6.2% point)

[#] Excluding depreciation

**Latest Position of Major Infrastructure Projects and
Other Projects Relating to Sewage Services**

(June 2016)

Part 1 Major Infrastructural Projects

PWP Item No.		Project Title	Progress as of June 2016
1	341DS	Harbour Area Treatment Scheme, stage 2A – upgrading of Stonecutters Island sewage treatment works and preliminary treatment works	The project was part-upgraded to Category A for implementation as 369DS – Harbour Area Treatment Scheme, stage 2A – construction of the sewage conveyance system and advance works for upgrading of Stonecutters Island sewage treatment works in June 2009, while the remaining part of 341DS was also upgraded to Category A in April 2010. The main works were completed in January 2015 with full commissioning in December 2015. The last contract for demolition of the chemically enhanced primary treatment (CEPT) tanks and associated facilities at the Cyberport STW is anticipated to commence in June 2016.
2	352DS	Harbour Area Treatment Scheme, stage 2A – construction of advance disinfection facilities at Stonecutters Island sewage treatment works	The project was completed in October 2009. With full commissioning of the ADF since March 2010, there has been sustained improvement in the water quality at the seven beaches in Tsuen Wan.
3	233DS	Sludge treatment facilities	With approval by FC for upgrading the project to Category A in June 2009, we commenced the design and construction of the project in October 2010. The first phase and the second phase of the STF were commissioned in April 2015 and April 2016 respectively.

Part 2 Other Projects Relating to Sewage Services

	PWP Item No.	Project Title	Progress as of June 2016
4	344DS	Upgrading of Central and East Kowloon sewerage – package 1	Both projects, together with 356DS – Upgrading of Central and East Kowloon sewerage – package 4 , were combined and re-packaged for implementation in three phases. Phases 1 and 2 have been upgraded to Category A as 367DS – Upgrading of Central and East Kowloon sewerage – phase 1 and 377DS – Upgrading of Central and East Kowloon sewerage – phase 2 . Works under 367DS and 377DS were completed in December 2015 and March 2016 respectively.
5	337DS	Upgrading of Central and East Kowloon sewerage – packages 2 and 3	
6*	357DS	Sewage interception scheme in Kowloon City	The project was completed in July 2012.
7*	363DS	Provision of interception facilities at Jordan Valley box culvert	The project was completed in June 2014.
8	125DS	Tolo Harbour sewerage of unsewered areas	The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 365DS – Tolo Harbour sewerage of unsewered areas, stage 1 phase 2C and 395DS – Tolo Harbour sewerage of unsewered areas, stage 2 phase 1 . Works under 365DS have been completed in January 2015. The project completion date for 395DS remains September 2017.
9	222DS	Tai Po sewage treatment works, stage 5 phase 1	The project was completed in February 2010.
10	342DS	Tai Po sewage treatment works, stage 5 phase 2A – disinfection	The project was completed in March 2010.
11	236DS	Tai Po sewage treatment works, stage 5 phase 2B	The project was completed in June 2014.
12	237DS	Tai Po Tai Wo Road sewage pumping station and rising mains	The project was completed in June 2013.

PWP Item No.		Project Title	Progress as of June 2016
13	332DS	Lam Tsuen Valley sewerage	The project is being implemented in phases. We obtained FC's approval to upgrade the project to Category A as 364DS – Lam Tsuen Valley sewerage – trunk sewers, pumping station and rising mains, 373DS – Lam Tsuen Valley sewerage, stage 1 and 332DS – Lam Tsuen Valley sewerage, stage 2. The works under 364DS and 373DS were completed in November 2012 and May 2016 respectively. The completion date of 332DS remains December 2016.
14	338DS	Improvement and upgrading of the sewerage systems in Shatin / Ma On Shan New Town	The project was completed in May 2011.
15*	372DS	Rehabilitation and construction of trunk sewers underneath Shing Mun River Channel	Works have been substantially completed in June 2016.
16*	399DS	Relocation of Sha Tin sewage treatment works to caverns	We obtained FC's approval to upgrade part of the project as 407DS – Relocation of Sha Tin sewage treatment works to caverns – consultants' fees and investigation to Category A in July 2014. Environmental impact assessment has been completed and site investigation is in progress. Design for the works is in progress for completion by end 2022.
17	52DS	Ting Kau sewerage, stage 2	The project was completed in September 2009.
18	126DS	Sham Tseng sewerage, stage 3	The project was completed in September 2009.
19	358DS	Sewerage to Chuen Lung Village, Kau Wa Keng Old Village and Lo Wai	The implementation programme is under review in light of the need for further consultation with local communities and obtaining their support.
20	226DS	Sai Kung sewage treatment works, phase 2 upgrading	The implementation programme is under review to align with the programmes of other sewerage projects in the Port Shelter catchment.

PWP Item No.		Project Title	Progress as of June 2016
21	272DS	Port Shelter sewerage, stage 2	Both projects are being implemented in phases. We first obtained FC's approval to upgrade parts of the projects to Category A as 382DS – Sewerage at Clear Water Bay Road, Pik Shui Sun Tsuen and west of Sai Kung town in June 2012. Due to higher than expected tender prices and increase in the provision for price adjustment, we further obtained FC's approval to increase the APE of the project in January 2013. The completion date remains January 2017. We obtained FC's approval to upgrade another part of 272DS to Category A as 410DS – Trunk sewers at Hiram's Highway in July 2015. The works under 410DS commenced in March 2016 for completion by December 2020.
22	273DS	Port Shelter sewerage, stage 3	
23	347DS	Port Shelter sewerage, stage 3 – Sai Kung Area 4 sewerage	The project was completed in February 2011.
24	235DS	Yuen Long and Kam Tin sewerage and sewage disposal	The project is being implemented in phases. We obtained FC's approval to upgrade three parts of the project to Category A as 368DS – Yuen Long South sewerage and expansion of Ha Tsuen sewage pumping station , 376DS – Trunk sewerage at Lau Fau Shan and 411DS – Upgrading of San Wai sewage treatment works – phase 1 . The main works of 368DS were completed in January 2014 and 376DS was completed in December 2015. The works of 411DS commenced in May 2016 for completion by end 2020.
25	350DS	Yuen Long and Kam Tin sewerage and sewage disposal – consultants' fees and investigations	This is a consultancy study on the detailed planning and design of the works under 235DS – Yuen Long and Kam Tin sewerage and sewage disposal (item 24). Due to the change in project scope of the remainder of 235DS , the study is still in progress and its completion is subject to the programme of the remainder of 235DS .
26	215DS	Yuen Long and Kam Tin sewerage and sewage disposal – Kam Tin trunk sewerage, phase 1 and Au Tau trunk sewers	The project was completed in February 2010.

PWP Item No.		Project Title	Progress as of June 2016
27	223DS	Yuen Long and Kam Tin sewerage treatment upgrade – upgrading of San Wai sewage treatment works	The project will be implemented in two phases. We obtained FC’s approval to upgrade the phase 1 works to Category A as 411DS – Upgrading of San Wai sewage treatment works – phase 1 in April 2016. The works under 411DS commenced in May 2016 for completion by end 2020. The implementation programme for the phase 2 works is under review as additional time is needed to determine the proposed development in the area and the ultimate sewage treatment capacity.
28	157DS	Yuen Long and Kam Tin sewerage, stage 2	The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support.
29	274DS	Yuen Long and Kam Tin sewerage, stage 3	The project is being implemented in phases. We obtained FC’s approval to upgrade two parts of the project to Category A as 370DS – Village sewerage at Wang Chau, Yuen Long and 384DS – Yuen Long and Kam Tin sewerage, stage 3, package 2 . Construction for 370DS was completed in October 2013. The completion date for 384DS has been rescheduled from September 2016 to November 2016 due to additional sewerage works requested by the public.
30*	408DS	Yuen Long effluent polishing plant	We obtained FC’s approval to upgrade part of the project as 412DS – Yuen Long effluent polishing plant – consultants’ fees and investigation to Category A in July 2015. The consultancy study commenced in May 2016 with the investigation and design phases to be completed by end 2021.
31	160DS	Tuen Mun sewerage, stage 1	The project is being implemented in phases. We obtained FC’s approval to upgrade two parts of the project to Category A as 374DS – Tuen Mun sewerage, stage 1 – village sewerage in Tsing Chuen Wai and Tuen Tsz Wai and 404DS – Tuen Mun sewerage, Castle Peak Road Trunk Sewer and Tuen Mun Village Sewerage . Construction for 374DS was completed in August 2014 whereas construction for 404DS is scheduled for completion by August 2019.
32	181DS	Tuen Mun sewerage, stage 2	The implementation programme is under review in light of the additional time needed for further consulting the local communities and obtaining their support.
33	329DS	Upgrading of Pillar Point sewage treatment works	The construction works were completed in May 2014.

PWP Item No.	Project Title	Progress as of June 2016
34 346DS	Upgrading of Tuen Mun sewerage, phase 1	The project is being implemented in phases. We obtained FC's approval to upgrade three parts of the project to Category A as 360DS – Sewerage at Tseng Tau Chung Tsuen, Tuen Mun, 371DS – Sewerage in western Tuen Mun and 404DS – Tuen Mun sewerage, Castle Peak Road Trunk Sewer and Tuen Mun Village Sewerage . The construction for 360DS and 371DS were completed in February 2011 and December 2015 respectively, whereas 404DS is scheduled for completion by August 2019.
35 229DS	North District and Tolo Harbour sewerage, sewage treatment and disposal – high priority works – expansion of Shek Wu Hui sewage treatment works and Ting Kok Road pumping station No. 5	The project was completed in February 2009.
36 348DS	North District and Tolo Harbour sewerage, sewage treatment and disposal – regional sewerage works, part 1 – sewerage upgrade	The project was completed in March 2015.
37 339DS	North District sewerage, stage 1 phases 2B and 2C and stage 2 phase 1	The project is being implemented in phases. We obtained FC's approval to upgrade five parts of the project to Category A as 359DS – North District sewerage, stage 1 phase 2B, 366DS – Kau Lung Hang sewerage – trunk sewers, pumping station and rising mains, 375DS – Sewerage in Ping Kong, Fu Tei Pai and Tai Wo, 386DS – Village Sewerage in Kau Lung Hang San Wai, Kau Lung Hang Lo Wai and Tai Hang, and southern trunk sewer between Wai Tau Tsuen and Nam Wa Po and 396DS – Sewerage in Nam Wa Po and Wai Tau Tsuen . The works under 359DS and 366DS were completed in January 2011 and December 2012 respectively, whereas those under 386DS and 396DS are scheduled for completion by September 2017. The completion date of 375DS is under review as more time is needed for addressing concerns of villagers.
38 345DS	North District sewerage, stage 2 part 2A	The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 378DS – North District sewerage, stage 2 part 2A – Pak Hok Lam trunk sewer and Sha Tau Kok village sewerage . The works are scheduled for completion in August 2016.
39 203DS	North District sewerage, stage 2 part 2B	The implementation programme is under review in light of the need for further consultation with the local communities and obtaining their support.

PWP Item No.	Project Title	Progress as of June 2016
40*	388DS Shek Wu Hui sewage treatment works – further expansion phase 1A	We obtained FC's approval to upgrade part of the project as 406DS – Shek Wu Hui sewage treatment works – further expansion phase 1A – advance works, consultants' fees and investigation to Category A in March 2015. Construction of advance works is in progress and scheduled for completion by October 2018. Site investigation and design for the main works are in progress for completion by end 2018.
41	211DS Outlying Islands sewerage, stage 1 phase 2 – upgrading of Peng Chau sewage treatment works	The project was completed in March 2008.
42	230DS Outlying Islands sewerage, stage 1 phase 1 part 2 – Yung Shue Wan sewerage, sewage treatment works and outfall	We first obtained FC's approval to upgrade both projects to Category A in November 2007. Part of the sewerage works has been completed while, on the other hand, DSD was required to re-tender the works contract for construction of the STWs as the first tendering exercise was unsuccessful. With FC's approval to increase the APE of both projects, DSD has commenced construction of the remaining works. Works under 230DS and 234DS were completed in August 2014 and February 2015 respectively.
43	234DS Outlying Islands sewerage, stage 1 phase 2 – Sok Kwu Wan sewage collection, treatment and disposal facilities	
44*	331DS Outlying Islands sewerage, stage 2 – South Lantau sewerage works	We obtained FC's approval to upgrade part of the project as 385DS – Outlying Islands sewerage, stage 2 – South Lantau sewerage works – consultant's detailed design fees to Category A in June 2012. Site investigation and survey have been substantially completed. Programme of detailed design is being reviewed in light of the additional time needed for completing the statutory procedures for acquisition of the land required.
45	343DS Outlying Islands sewerage, stage 2 – Peng Chau village sewerage phase 2	The project will be implemented in phases. The implementation programme is under review in light of the additional time needed for further consultation with the local communities and obtaining their support.
46	353DS Outlying Islands sewerage, stage 2 – upgrading of Mui Wo village sewerage phase 2 and Mui Wo sewage treatment works	The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 387DS – Upgrading of Mui Wo sewage treatment works and sewerage at Mui Wo town centre and Wang Tong for completion by September 2017.
47	354DS Outlying Islands sewerage, stage 2 – upgrading of Cheung Chau and Tai O sewage collection, treatment and disposal facilities	The project will be implemented in phases. Statutory procedures and preparation are in progress.

PWP Item No.	Project Title	Progress as of June 2016
48	355DS Outlying Islands sewerage, stage 2 – Lamma village sewerage phase 2	The project is being implemented in phases. We obtained FC's approval to upgrade part of the project to Category A as 397DS – Outlying Islands sewerage, stage 2 – Lamma village sewerage phase 2, package 1 for completion by July 2018.

* These projects were initiated after the review of SC in 2007. In other words, they have *not* been included under the list of major infrastructural and other projects relating to sewage services for the purpose of determining SC increment levels at that time.